

What is claimed is:

1. A method for manufacturing a measuring probe (1), in particular a pH measuring probe, comprising a housing (3) and two electrodes (2, 15), including the method steps:

- 5 (a) in order to form a receptacle device (23), an electrode wire (7) sheathed with extruded plastic is provided, the wire protruding out of the receptacle device (23) on both ends,
- the electrode wire (7) is attached to the receptacle device (23) at its first end (7'),
  - in order to form the first electrode (2), a glass tube (8) is pushed over a second end (7'') of the electrode wire (7) until the glass tube (8) comes in contact with a recess (26) in the receptacle device (23),
  - 10 - glass tube (8) and receptacle device (23) are attached to one another;
- (b) in order to form a base plate having a recess (17) in the shape of the receptacle device (23), another electrode wire (15) sheathed with extruded plastic is provided, the wire protruding out of the base plate (12) on both ends,
- the additional electrode wire (15) is attached to the base plate (12) at its end (15')
  - 15 which protrudes out of the base plate (12);
- (c) a sheathing (11) having a first opening in the form of the base plate (12) and a second opening (5) in the shape of the glass tube (8) is provided,
- in order to form the housing (3), the sheathing (11) and base plate (12) are sealed together;
  - 20 (d) the glass tube (8) is pushed through the recess (17) in the base plate (12) until the glass tube (8) protrudes out of an opening (5) in the sheathing (11) and the receptacle device (23) comes in contact with the base plate (12).

2. The method as recited in Claim ,

characterized in that to attach the electrode wire (7), it is pushed by its first end (7') through a  
25 transverse through bore (45) provided in the receptacle device (23), tightened, and an end (7') protruding out of the transverse through bore (45) is cut off.

3. The method as recited in one of the preceding claims,

characterized in that to attach the electrode wire (7, 15), it is threaded by its first end (7', 15') into

a receptacle means (56), e.g., an eye (56) provided in the base plate (12) and/or in the receptacle device (23), and is tightened and a protruding end is cut off.

4. The method as recited in one of the preceding claims, characterized in that the sheathing (11) and base plate (12) are sealed by ultrasonic welding.

5 5. The method as recited in Claim 4, characterized in that a double weld (57, 58) is produced.

6. The method as recited in one of the preceding claims, characterized in that an electrolyte liquid, in particular a polymer protolyte solution, is added to the housing (3) after sealing the base plate (12) and the sheathing (11).

10 7. The method as recited in one of the preceding claims, characterized in that to form the first electrode (2, 47) an electrolyte liquid, in particular a polymer protolyte solution, is added into the glass tube (32).

8. The method as recited in one of the preceding claims, characterized in that the receptacle device (23) has a groove (44) running on its outside surface  
15 on its end opposite the recess (26), with the electrode wire (7) being placed in this groove.

9. The method as recited in one of the preceding claims, characterized in that the receptacle device (23) has outside grooves (40) and/or inside grooves into which an elastomer is extruded for manufacturing rubber projections (41, 43) to seal and secure the first electrode (2).

20 10. The method as recited in one of the preceding claims, characterized in that the receptacle device (23) has a central recess (26) into which an elastomer is extruded for producing a rubber buffer (42) for buffering and sealing the first electrode (2).

11. The method as recited in one of the preceding claims, characterized in that a groove (60) formed between the receptacle device (23) and the base plate  
25 (12) is sealed by an O-ring (61) and a fixation screw (62) or a latching means.

12. The method as recited in one of the preceding claims,  
characterized in that to secure the first electrode (2) and/or the second electrode (15) they are  
glued or welded onto the housing (3) or extruded with the housing (3).

13. The method as recited in one of the preceding claims,

5 characterized in that to form a temperature sensor in the base plate (12) a tube (50) is covered  
with plastic (51), a heat transfer compound is packed into a tip of the tube (50), and then a twin  
cable (52), preferably an NTC wire (52), is inserted into the interior of the tube (50), with the  
two ends of the wire (52) protruding out of the tube (50) being soldered to contact rods (55).

14. The method as recited in Claim 13,

10 characterized in that a recess (54) is provided in the area of the base plate (12) to accommodate a  
contact plate (53) and the contact rods (55) are inserted into the contact plate (53) arranged in the  
recess (54).

15. The method as recited in one of the preceding claims,

15 characterized in that the parts (7") of the electrode wire (7, 15) arranged inside the housing (3)  
are at least partially chlorinated.

16. The method as recited in one of the preceding claims,

characterized in that the parts (7', 15') of the electrode wire (7, 15) which are accessible from  
outside the housing (3) are at least partially gold plated.

17. The method as recited in one of the preceding claims,

20 characterized in that the base plate (21) and/or the sheathing (11) and/or the receptacle device  
(23) is/are manufactured by inserting into a mold and extruding plastic into the mold.